REMARKS:

Claims 1-10 are presented for examination. Claims 1, 7 and 9 have been amended hereby.

Reconsideration is respectfully requested of the rejection made in the April 22, 2008 Final Office Action of claims 1-10 under 35 U.S.C. 112, first paragraph.

It is noted that applicants do not concur with the Examiner with regard to the Examiner's analysis of the claims under the applicable rules and regulations.

For example, with regard to claim 1, this claim had previously been amended to recite "characterize a capital structure of the entity in connection with a cost to the entity of a selected debt/equity ratio relative to a risk associated with the selected debt/equity ratio".

On page 2 of the April 22, 2008 Final Office Action, the Examiner asserts that such "a cost to the entity" is allegedly not found in the original specification.

Applicants respectfully disagree. In fact, it is respectfully submitted that in the context of the disclosure of the original specification, such a cost to the entity of a selected debt/equity ratio relative to a risk associated with the selected debt/equity ratio is clear.

In this regard, the Examiner's attention is directed, for example, to the following portions of the specification:

> The present invention provides an aid in answering the following question. What is the optimal capital structure for a given entity (e.g., a public corporation)? This puzzle of corporate finance has typically remained in the realm of theoretical speculation. Until now, actually applying the theory has typically been hindered by the difficulty of evaluating and comparing the **economic cost** and risk of debt, equity, and hybrid alternatives along the debt/equity continuum. (page 11, lines 15-20) (emphasis added)
>
> 2) Credit Quality and Future Cost of Capital: Moving toward the equity end of the Capital Structure Efficient Frontier decreases leverage and therefore lowers the **future cost of capital.** By taking this indirect benefit into account, the methodology of the present invention can more accurately estimate the **effective cost** of equity and hybrids with high equity credit. (page 12, lines 6-10) (emphasis added)
>
> As noted above, one embodiment of the present invention is directed to a framework/methodology that can account for the differences in risk between debt and equity **(as well as for the differences in cost)**. The management of a company interested in maximizing shareholder value would do well to focus on optimizing EPS: maximizing its level and minimizing its uncertainty. (page 13, lines 21-25) (emphasis added)

Company XYZ is considering issuing debt to repurchase $200mm of equity and would like to quantify the cost versus risk trade-off of this change in capital structure. The actual impact of this transaction on Company XYZ's capital structure and earnings per share are calculated and shown in the "After" and "Change" columns of Table 1. The added after-tax interest expense associated with $200mm of additional debt depresses earnings and increases its volatility. Using the proceeds to buy back 5mm common shares at $40 per share reduces the number of common shares outstanding from 100mm to 95mm. This antidilution is enough to offset the increase in interest expense and raise the expected EPS by 3.5%, from $5.00 per share to $5.18. Replacing equity with debt is cheaper, but it is also riskier. This is because a larger amount of earnings volatility is shared by a smaller number of shareholders. EPS risk rises by 10%, from $0.50 per share to $0.55. (page 14, lines 4-15) (emphasis added)

Referring now to Fig. 1, this Fig. depicts a graphical representation of the cost versus risk tradeoff of this $200mm transaction in a more global context. Increasing the amount of the transaction traces out a Capital Structure Efficient Frontier representing the lower cost but higher risk associated with an increasingly levered capital structure. Issuing shares and repurchasing debt moves in the opposite direction along the Capital Structure Efficient Frontier, corresponding to more costly, yet less risky, unlevered capital structures. (page 14, line 16 to page 15, line 3) (emphasis added)

Although it was the case for Company XYZ, equity will not necessarily always be more costly than debt. For example (which example is intended to be illustrative and not restrictive), again assuming the same facts as used for Company XYZ above, Table 2, below, shows the sensitivity of the EPS economics of the share repurchase transaction to the share price. (page 15, lines 4-8) (emphasis added)

For growth companies with very high P/E ratios it is inefficient to replace equity with debt. A company with a P/E ratio of 40 would actually reduce EPS rather than increase it by repurchasing shares at an elevated price of $200 per share. This conclusion is consistent with a traditionally accepted doctrine: Companies that are still in the high growth phase of development should maintain a more equity-intensive capital structure, while more-established companies can afford to have higher levels of debt. Likewise, debt may not always be more risky than equity. If a company's earnings are positively correlated with interest rates, as is the case for many financial companies, **replacing equity with debt would potentially reduce both cost and risk**. In line with intuition, financial companies would be expected to favor highly levered capital structures. (page 15, line 14 to page 16, line 5) (emphasis added)

> Referring now to credit quality and future cost of capital, it is believed that while growth companies with 100% equity capital structures do in fact exist, there are essentially no financial companies with 100% debt capital structures. There are a number of reasons for this. For one thing, industry specific regulations, such as the Basel Accord minimum capital ratios for banks, may put absolute constraints on a company's leverage. Another softer constraint that actually affects essentially all companies is the impact of leverage on a company's credit ratings and therefore its future cost of capital. The more leveraged a firm, the greater its risk of default. Future bondholders and shareholders will demand a higher risk premium before investing to compensate for this higher risk. **This raises the company's future cost of capital**. As the company refinances maturing debt and the debt portfolio is repriced at higher and more volatile spreads, interest expense and risk both rise, resulting in a decrease in EPS and an increase in its volatility. (page 16, lines 6-17) (emphasis added)

Referring now to claim 7, this claim had previously been amended to recite "ΔN_{eff} equals the input change in the effective number of common shares outstanding, based at least in part upon each of a plurality of iteratively changed values of stock price associated with the entity".

On page 2 of the April 22, 2008 Final Office Action, the Examiner asserts that such "a plurality of iteratively changed values of stock price" is allegedly not found in the original specification.

Applicants respectfully disagree.

First, with regard simply to a plurality of iteratively changed values of stock price, the Examiner's attention is directed, for example, to the specification at page 7, lines 21-25 (emphasis added):

> In one example, the method may further comprise: **iteratively changing a value of a stock price associated with the entity**; iteratively changing the value of coupon payments associated with the entity; iteratively calculating additional values of earnings per share using the formula
>
> $$EPS = DPS_0 + \frac{Earnings_0 - N_o x\ DPS_0 - Coupon}{N_o + \Delta N_{eff}}.$$

Second, it is respectfully submitted that in the context of the disclosure of the original specification, ΔN_{eff} equaling the change in the effective number of common shares outstanding, based at least in part upon each of a plurality of iteratively changed values of stock price associated with the entity is clear. This is because, as stated (for example) at page 28, lines 6-7,

"ΔN_{eff} is the effective number of shares, which reflects the possibility that a convertible may convert into the underlying shares ΔN_{und} or no shares at all" and because values of stock price clearly have an effect on whether a convertible is converted.

Therefore, it is respectfully submitted that the rejection made in the April 22, 2008 Final Office Action of claims 1-10 under 35 U.S.C. 112, first paragraph, has been overcome.

Reconsideration is respectfully requested of the rejection made in the April 22, 2008 Final Office Action of claims 1-10 under 35 U.S.C. 103 as allegedly being unpatentable over U.S. Patent Application Publication 2003/0046203, hereinafter "Ichihari et al." in view of U.S. Patent 7,251,627, hereinafter "Vass" (of note, while the Examiner had indicated at page 3 of the April 22, 2008 Final Office Action that the rejection was made under 35 U.S.C. 102(e), it appears (based on the combination of references presented by the Examiner) that the intention was to make the rejection under 35 U.S.C. 103).

It is respectfully submitted that applicants do not concur with the Examiner with regard to the Examiner's analysis of the claims and the Ichihari et al. and Vass references.

For example, as best understood, Ichihari et al. provides a mechanism via which an "optimum debt/equity ratio" may be obtained from an earnings probability distribution and default probability and such obtained "optimum debt/equity ratio" may be used (along with capital stock cost and borrowing cost) to determine a weighted average cost of capital.

This is shown, for example, in Ichihari et al. as follows:

> [0064] According to the invention, the capital composition is obtained from the earnings probability distribution and default probability.
>
> [0065] The required capital composition (the optimum debt/equity ratio) of the invested capital can be obtained from the earnings probability distribution.
>
> [0066] A graph as shown in FIG. 2, in which the horizontal axis indicates the ratio of the value of profit to the invested capital (the invested amount of money) (ROI, or Return on Investment) (%) and the vertical axis indicates the probability frequency, shows a stochastic distribution curve of ROI with respect to the business risk.
>
> [0067] Assuming that the entire area defined by the ROI stochastic distribution curve is 100% and the default probability is set, for example, at "0.1%", a point of ROI* on the loss side which defines an area of 0.1% of the entire area from the left end, is found. The area of 0.1% of the entire area indicates the probability of

incurring a deficit larger than that indicated by this point. In this example, the ROI value is -40%. This means that a probability at which the enterprise (or the operating department) represented by the ROI distribution shown in FIG. 2 will go bankrupt with a deficit of 40% or more of the invested capital, is 0.1%. It therefore follows that, if the composition of the invested capital is 60% to 40% in terms of debt to equity, the default probability of bankruptcy from insolvency is 0.1%.

[0068] In step 112, the required capital composition (an optimum debt/equity ratio) is calculated as described in the foregoing. The default probability of 0.1% corresponds to a credit rating of "A", which allows the borrowing cost to be calculated as 1.7% in step 104. The equity cost is, on the other hand, calculated in step 108. **Using all these calculated values, the weighted average cost of capital is calculated in step 114**. (paragraphs 0064-0068) (emphasis added)

See, also, Ichihari et al. at Fig. 1 and paragraph 0045:

[0045] The weighted average cost of capital can be calculated by obtaining a weighted average of the borrowing cost and the capital stock cost in terms of the capital composition.

Thus, in this reference, while a weighted average cost of capital may be calculated in terms of the capital composition, it appears that an optimum debt/equity ratio is used in the calculation with no iterative process involved (see, e.g., Fig, 1, wherein no feedback to iteratively calculate more than one required capital composition (debt/equity ratio) at step 112 appears to be provided).

Moreover, it appears that the debt/equity ratio used in the calculation is used to calculate a weighted average cost of capital.

This is in contrast with the invention currently claimed in independent claim 1 (the sole pending independent claim) which recites, *inter alia,* the following:

- "calculating, with the computer system, a plurality of **values of earnings per share** associated with the entity based at least in part upon the iteratively changed values of the debt/equity ratio associated with the entity" (emphasis added)

That is, it is respectfully submitted that Ichihari et al. do not teach, show or even suggest this calculating a plurality of values of earnings per share associated with the entity

based at least in part upon the iteratively changed values of the debt/equity ratio.

Moreover, it is noted that claim 1 (the sole pending independent claim) also recites, *inter alia,* the following:

- "calculating **a plurality of values of earnings per share risk** associated with the entity based at least in part upon the iteratively changed values of the debt/equity ratio associated with the entity" (emphasis added)

Again, it is respectfully submitted that Ichihari et al. do not teach, show or even suggest this calculating a plurality of values of earnings per share risk associated with the entity based at least in part upon the iteratively changed values of the debt/equity ratio.

In particular, it is noted that, as best understood, the equity risk of Ichihari et al. is not based at least in part upon the iteratively changed values of the debt/equity ratio but, rather, based on fluctuation of stock price (see, e.g., step 106 of Fig. 1).

For the Examiner's convenience, paragraph 0061 of Ichihari et al. that was cited by the Examiner at page 3 of the April 22, 2008 Final Office Action is reproduced below (as seen, this paragraph does nothing to change the explicit indication of Step 106 of Fig. 1 that the calculation of equity risk is based on fluctuation of stock price):

> [0061] Using these techniques, the value of the equity risk β is calculated in step 106 and the capital stock cost (Re) is calculated in step 108.

With reference now to Vass, it is noted that the Examiner states on page 4 of the April 22, 2008 Final Office Action that Ichihari et al. "fails explicitly to disclose iteratively changing a value of a debt/equity ratio associated with the entity" but that Vass allegedly "discloses iteratively changing a value of a debt/equity ratio associated with the entity".

While the Examiner had earlier in the April 22, 2008 Final Office Action (see the middle of page 3) seemed to suggest that this feature was disclosed by Ichihari et al., as discussed above, it is believed that Ichihari et al. does not teach, show or suggest this feature.

Thus, it appears that a few comments on Vass are appropriate here.

More particularly, it is noted that, as best understood, the references to debt/equity ratio

in Vass relate to one of a plurality of parameters used to screen stocks for inclusion in an investment portfolio (e.g., a debt/equity ratio threshold of 20% or less).

In this regard, see, the following portions of Vass:

> The present invention entails a method for identifying a universe of common stocks that meet certain selected criteria and then selecting stocks from that universe for inclusion into a stock portfolio based on additional criteria. In selecting stocks into the universe, the present invention entails scanning a stock database and identifying stocks that fall into predetermined industry sectors. Those stocks that fall within the selected industry sectors are selected for the universe and all other stocks are excluded. Further, the stock scanning process for identifying stocks for inclusion into the universe examines the available industry sector stocks to determine if they meet additional criteria. The additional criteria for inclusion into the universe includes one or more of the following criteria. First, whether a particular stock has consistently paid a dividend over a selected period of time is one criteria in determining if the stock is included in the universe. Secondly, the screening further examines the debt to equity ratio of the stocks being screened. In one application of the present invention, the screening process looks for stocks that have a debt to equity ratio of twenty percent or less. A third factor relates to sales, profits and profits per share. The screening process will identify stocks that have stable or rising sales, profits and profits per share based on past quarter reports on a yearly basis. In addition, the further screening process looks at the credit rating of the individual stocks and will apply a selected threshold for inclusion of stocks within the universe. Certain credit standards can be established, but in one application of the present invention, the screening of the stock database looks for stocks having a Standard & Poor's credit rating of A, B or non-rated. Some applications of the present invention will apply all of the above criteria, while other applications will weigh the various criteria and apply only selected criteria. In any event, once the screening process has been completed, a universe of stocks will be identified and from this universe of stocks, selected stocks will be periodically chosen for inclusion into a stock portfolio. It should also be pointed out that the identified universe is dynamic and the stocks therein would continue to change as new stocks from the database would periodically be added and stock within the universe would be periodically excluded based on predetermined criteria.(col. 1, line 36 to col. 2, line 9) (emphasis added)

> Even though a stock may lie within the SIC number group specified, that does not mean that the stock will ultimately end up in the final universe of stocks. Those stocks falling within the initial universe of stocks because of their SIC numbers must be further analyzed. Specifically, the process of the present invention and the computer software employed looks at a number of relevant criteria and financial parameters. This further examination looks to see if each stock of the initial universe has consistently paid dividends over a selected time period, such as for example three years. Next in scanning the stocks of the initial universe,

attention is paid to the debt to equity ratio of each stock. The program sets a threshold for the debt to equity ratio for all stocks selected into the universe. In one particular application of the present invention, the threshold is 20% or less. Next, the program looks to determine if a stock has rising or stable sales, profits and profits per share on a yearly quarter basis for a selected time period. Again if any stock selected into the initial universe is found to have declining sales, profits or profits per share on a yearly quarter basis, than that stock is not selected into the final universe. Finally, the program examines each stock to determine if it meets a selected credit rating schedule. There are a number of services that provide credit ratings for stocks. In one application of the present invention, the program for identifying the ultimate universe examines Standard & Poor's credit rating for each respective stock. In order to be selected into the universe, the stock must have a Standard & Poor's credit rating of A, B or non-rated. If the credit rating does not meet this threshold requirement, in this particular application, then the stock is not selected into the final universe of stocks. (col. 4, line 40 to col. 5, line 3) (emphasis added)

Another parameter that is continuously monitored is the debt to equity ratio of each stock of the universe and the active portfolio. A threshold limit is programmed for the debt to equity ratio. In one preferred application of the present invention, this threshold is 20%. That is, if the debt to equity ratio exceeds 20% for any given stock, then that stock is excluded from the universe or sold from the active portfolio. (col. 6, lines 55-62) (emphasis added)

As seen, Vass simply screens stocks by examining a debt/equity ratio for a given stock, and clearly fails to teach, show or even suggest the claimed step of "iteratively changing ...a value of a debt/equity ratio associated with an entity".

Thus, even if Vass were to be combined with Ichihari et al. as suggested by the Examiner, the hypothetical combination would still fail to teach, show or even suggest the invention claimed in independent claim 1.

Finally, with reference to dependent claims 7 and 9, it is noted that each of these claims recites features directed to specific additional formulas and calculations.

In this regard, it is noted that the Examiner discusses, at page 6 of the April 22, 2008 Final Office Action, paragraphs 0033-0039 of Ichihari et al. as allegedly showing these features.

The cited portions of Ichihari et al. have been reviewed and, as best understood, these passages do not teach, show or even suggest the specific formulas recited in claims 7 and 9.

If the Examiner would like to continue to make the rejection of claims 7 and 9, clarification of how the specific formulas recited in claims 7 and 9 is disclosed in these passages

is respectfully requested. For the Examiner's convenience, paragraphs 0033-0039 of Ichihari et al. are reproduced below:

> [0033] The business performance index processing system according to the present invention may be applicable to a business performance index used to measure performance of an entire enterprise or business units in the enterprise, or evaluate a new business to be started.
>
> [0034] The business performance index processing system according to the present invention first obtains the required capital composition (the optimum debt/equity ratio) of the invested capital based on the probability distribution of return on invested capital, and obtains the cost of capital thereof. It then subtracts the cost of capital from an operating profit to obtain the market efficiency value added (MEVA) as the economical business performance index.
>
> [0035] The system then estimates intangible value which is not listed in financial statements and not directly incorporated in price or cost, thereby obtaining the socio-environmental value added (SEVA) as the business performance index in terms of external economies.
>
> [0036] The system then combines these two indices together to obtain the future inspiration value (FIV) that is the business performance index representing the generic value of an enterprise.
>
> [0037] FIG. 1 is a flowchart showing a concept of a business performance index processing system according to the present invention;
>
> [0038] The embodiment according to the present invention may comprise the following steps of evaluating the enterprise using the tangible index and intangible index. They are the steps of evaluating the market efficiency value added (MEVA) (step 122), the socio-environmental value added (SEVA) (step 132), and the future inspiration value (FIV) (step 150). It thereby provides business performance indices that relate the management of performance evaluation within a company, incorporate a risk (uncertainty) evaluation in the investment and withdrawal guidelines, appropriately create a business portfolio (selection and concentration), make the capital composition (financing) appropriate, and eventually bring a sustainable growth to the company in harmony with the society.
>
> [0039] The calculation performed to evaluate the market efficiency value added (MEVA) will be described.

Therefore, it is respectfully submitted that the rejection of claims 1-10 under 35 U.S.C. 103 as allegedly being unpatentable over Ichihari et al. and Vass has been overcome.

Finally, it is noted that this Amendment is fully supported by the originally filed application and thus, no new matter has been added. For this reason, the Amendment should be entered.

For example, support for the amendment to claims 1, 7 and 9 regarding the various steps being done with the computer system may be found in claims 1, 7 and 9, as filed; and at page 59, lines 11-28.

Further, support for the amendment to claim 1 regarding outputting, with the computer system, the recorded calculated earnings per share values associated with the entity and the recorded calculated earnings per share risk values associated with the entity may be found at page 8, lines 6-7; and page 9, lines 17-18.

Favorable reconsideration is earnestly solicited.

Respectfully submitted,
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